Montana's Ongoing Brucellosis Investigation

by Dr. Jeanne Rankin, Acting State Veterinarian

My colleagues and I in the Montana Department of Livestock, along with other officials in both state and federal agencies, are now engaged in one of the most intensive disease investigations in recent Montana history. The tremendous help and cooperation we've been receiving from ranch families around the state, and from others involved in Montana's livestock industries, has been critically important and is most appreciated.

Brucellosis was detected in Montana cattle on May 18, threatening our state's brucellosis-free status. While brucellosis poses only a minute risk to human health, the economic costs could severely curtail Montana's premiere beef cattle industry. In addition, under federal rules, once brucellosis is detected, an exhaustive investigation that confirms no other cases of diseased livestock must be completed within 60 days for the state to retain its disease-free status, which was hard won in 1985

Brucellosis usually causes late-term abortions in cattle, bison and elk. Rarely will an infected cow carry a calf past five to seven months, but sometimes a live, but weak calf is born. The bacteria, *brucella abortus*, thrives in unpasteurized milk, afterbirth and other reproductive tract discharges, including aborted fetuses. The infection also spreads through reproductive discharges of fluids and materials. Research documents the spread of brucellosis from wildlife to domestic cattle when two or more species share rangelands, especially during the spring birthing season.

Brucella abortus can lead to undulant fever in humans, an incurable and severely debilitating condition. Once a serious problem (and still a problem, in epidemic proportions around the world), this risk in the U.S. has been virtually eliminated. It is the reason behind the nation's eradication effort, which began in the 1930s. Today, pasteurized milk and properly-cooked meat are risk-free.

Montana Department of Public Health and Human Services statistics indicate that between 1960 and 1985, when Montana acquired its brucellosis-free status, there were 28

cases of human undulant fever diagnosed in Montana. In the past 20 years since becoming Brucellosis class-free, only four Montanans have contracted the disease.

Over the past several weeks, the Montana Department of Livestock and the Veterinary Services Division of the USDA Animal and Plant Health Inspection Service (USDA:APHIS:VS) worked in close cooperation to test the Bridger herd where brucellosis was discovered. Our state Diagnostic Laboratory in Bozeman has done extraordinary work, at times generating accurate test results in as short a turn-around as several hours. To confirm brucellosis, a veterinarian must draw a blood sample and send it to the Diagnostic Laboratory in Bozeman. Usually, results are available within a week.

Now we are engaged in an effort to trace all breeding stock that has come in contact with the Bridger herd through sales, purchases or commingled grazing over the past two years. We are determined to complete this process within 60 days counting from the day the first positive test result arrived (May 18th), and we are hoping to find no more sign of the disease.

Meanwhile, all cattle from the Bridger herd are quarantined and will soon be slaughtered and the owners compensated through a livestock appraisal process paid for by USDA:APHS:VS. Individual cows, heifers and bulls from a second herd owned by the extended family have been tested and all results revealed no disease. This herd will be retested in 30 days and again in 120 days to complete the investigation from the birth herd of the original index cow.

Montana must remain clean from brucellosis for two years after discovering the first positive herd for the state to retain our brucellosis-free status. If testing confirms brucellosis in a second herd of Montana cattle, the state will drop from brucellosis-free status to Class A status. Before they can be exported, 18 month and older heifers, cows and bulls from a Class A state must demonstrate negative results (no brucellosis) from blood tests within the 30-day period before shipping. Already, North Dakota has restricted imports of Montana breeding stock, requiring a health certificate, individual identification and a negative brucellosis test within 30 days of importation. This testing requirement does not apply to steers or spayed heifers. Cattle grazing bordering counties will be evaluated on a case by case basis.

Montana's 1.4 million beef cattle comprise the seventh largest herd in the nation. Montana leads the U.S. in quality seedstock – the breeding heifers, cows and bulls that are shipped nationwide and overseas. While comparatively small, Montana's domestic bison (19,000 in 2002) and dairy cattle (28,000 cows and heifers) enterprises also contribute significantly to our state's largest economic driver. If Montana were to lose its brucellosis-free status, all 18 month old and older reproductive cattle shipped out of state would be tested for brucellosis within 30 days of transport, costing Montana producers an estimated $5 million to $15 million annually. All Montana cattle exports would need to

test negative for the disease over the course of the investigation. That investigation could last from one to several years before the state regains its brucellosis-free status.

Cattle producers can vaccinate against brucellosis when livestock are four to ten months old. Many, if not most, Montana producers voluntarily protect their stock from this economically devastating disease, but the vaccine is only 60% to 85% effective. That is better than no protection, but not a guarantee.

The urgency of our ongoing investigation is a great inconvenience for livestock owners and their animals. The process requires a lot of extra work from everyone involved. We are grateful for all the cooperation and help we're receiving from producers in this trying time. One way or another, science will determine the outcome of this process.